



The effects of contextual variables on food acceptability: A confirmatory study

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Abstract

Consumer acceptance of food and beverage was measured in three different settings/locations: a central location test in a laboratory facility, a central location test at one unit of a national chain restaurant and a customer satisfaction survey at the same chain restaurant in multiple cities. Two main dishes (lasagna, cannelloni), salad, breadsticks and iced tea were served either as individual items or as part of a meal. Meal context and the consumer's ability to choose had the strongest positive effects on acceptance ratings, while social interaction and enhanced environment had no noticeable effects on the acceptability scores. There were significant age and gender effects in the two restaurant settings, but not in the laboratory central location test. The results of this study confirm some of the results of King et al. (2004) [King, S., Weber, A., Meiselman H., & Lv, N. (2004). The effect of meal situation, social interaction, physical environment and choice on food acceptability. *Food Quality and Preference*, 15, 645–653] on the enhancing effects of context variables on product acceptance, and on how the relationship between context effect and consumer acceptance may not be consistent within and across meal components.

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1. Introduction

One of the goals of a product test with consumers is to increase product acceptance in the actual marketplace, the real world. Context has been identified as an important factor in understanding the acceptance of food and in predicting food consumption (Meiselman, Hirsh, & Popper, 1988). Rozin and Tuorila (1993) and

Rozin (1996) described the range of contexts that can influence eating and food choice, including indirect environmental/cultural factors, indirect personal factors and socio-cultural aspects which occur prior, during and after food consumption. Tuorila, Meiselman, Bell, Cardello, and Johnson (1994) demonstrated that setting expectations as part of the context in the evaluation of a novel food can help improve the acceptability of the product. Meiselman (2002) identified four of the context factors which can influence food acceptability: evaluating the food as part of a meal, the effect of social interaction during food consumption, the environment in which the food is consumed, and the ability to make choices regarding the food that is being consumed.

King, Weber, Meiselman, and Lv (2004) demonstrated that these context factors have an enhancing effect on food acceptability when comparing traditional laboratory tests with meals served in modified laboratory or real restaurant settings. Serving food as part of a meal and offering a choice of foods have the greatest positive impact on acceptability, followed by enhancement of the testing environment. Meal components have been shown to have different weights and impact on the overall acceptability of a food. Eindhoven and Peryam (1959) demonstrated that the acceptability of a food changed when evaluated as a single item versus evaluated as part of a meal.

Meiselman, Johnson, Reeve, and Crouch (2000) and Edwards, Meiselman, Edwards, and Leshner (2003) demonstrated that differences in acceptability of the same product can be influenced by the eating environment. There is a clear and repeatable difference between the acceptability of institutional food and restaurant food. Bell, Meiselman, Pierson, and Reeve (1994) demonstrated that manipulating the ethnicity of the environment influenced response to the same food. Identical foods were tested in a restaurant with different ethnic decors demonstrating that when the environment reinforces the food theme, acceptability increases. Beatty (1982), Kramer, Leshner, and Meiselman (2001) investigated the effect of choice on food acceptability. Beatty found that females responded positively to variety by consuming more food, while males' consumption remained unchanged. Kramer et al. (2001) found that people who select the same food repeatedly in a choice situation actually rate that food higher than people who select the food less frequently—this argues against the rule that more variety is always better, and underscores the importance of considering choice.

The purpose of this study was to expand the results from an initial context study (King et al., 2004) by repeating some of the tests with different food items and environments. King et al. studied a variety of enhanced laboratory settings and one restaurant setting, a small local casual restaurant. In the present study there is only one laboratory-based setting and two different tests in a national chain restaurant setting. The overall goal of this research is to identify better tools to predict consumer acceptability of products in natural environments.

2. Materials and methods

2.1. Approach

Three tests were conducted to compare a laboratory test to restaurant settings for consumer responses to a meal composed of iced tea, breadsticks, salad, lasagna and cannelloni. These three approaches incorporate one or more of the following contextual factors: evaluating the food as part of a meal, allowing social interaction, enhancing the testing environment and providing food choices (Table 1). Test 1 was conducted at the McCormick Sensory Science Center in Hunt Valley, MD and consisted of a standard central location test (CLT). In Test 2, samples were served at one unit of a national Italian chain restaurant. Test 3 was a nationwide in-store satisfaction survey performed at other units of the same Italian restaurant chain. In this test, respondents only filled out a survey for one rather than all five meal items (tests 1 and 2). Tests 1 and 2 each took one day in three 1-hour sessions during the late morning, afternoon and evening (11:00, 15:00 and 17:30). Test 3 was a restaurant satisfaction survey that took place during the evening, over the course of several weeks at over 40 locations across the United States.

2.2. Sample preparation/presentation

Five items were served: unsweetened iced tea, tossed salad (mixed greens, red onion rings, sliced tomato, olives, peperoncini and croutons) with Italian dressing, garlic breadsticks, cannelloni with meat filling and meat lasagna. Ingredients were prepared according to the restaurant's specification in all three tests. Items in test 1 were prepared by Olive Garden and McCormick chefs. Test 2 items were prepared by the same chefs. The test was executed at a local (Baltimore area) restaurant. Test 3 items were prepared by the individual restaurant chefs. The test was executed in 40 restaurants across the United States. Serving sizes and presentation order varied by test as described in Table 2.

2.3. Ballot

In tests 1 and 2, a 9-point structured hedonic scale (1 = dislike extremely; 5 = neither like nor dislike;

Table 1
Testing protocol

Context	Test		
	Test 1: traditional CLT	Test 2: restaurant CLT	Test 3: restaurant survey
Meal	Individual meal components	Individual meal components	Meal
Social	Self	Social	Social
Environment	Consumer testing facility	Restaurant	Restaurant
Choice	No choice	No choice	Choice

This protocol contains the context factor options included in each test.

9 = like extremely) was used for overall liking (Peryam & Pilgrim, 1957). To provide consistency in ballot design across all three tests, a 6-point structured hedonic scale (1 = poor; 2 = fair; 6 = excellent) was used to measure

the overall rating. Overall acceptability was placed as the first question in the ballot for tests 1 and 2 (test 3 did not include an overall acceptability measure). Overall rating was measured in all three tests and was imbed-

Table 2

Experimental conditions by test to investigate four context effects: meal, social, environment and choice

	FACTORS VARIED	TEST 1 "McCORMICK CLT"	TEST 2 "LOCAL RESTAURANT CLT"	TEST 3 "NATIONAL RESTAURANT SATISFACTION SURVEY"
MEAL	Order Presented	Randomized; sequential monadic for all 5 items; 10 min per item	1 st – Tea (5 min) 2 nd – Salad & Breadsticks (10 min) 3 rd – Lasagna or Cannelloni (15 min) 4 th – Lasagna or Cannelloni (15 min)	Natural restaurant serving conditions. Each customer evaluated only one of the 5 items within the context of their individual meal selection.
	Serving Size	<i>Lunch/smaller Portions:</i> Tea: 74g tea with 26g ice Salad: 120g Breadstick: 1-20cmX4cm Lasagna: 285g Cannelloni: 150g total	<i>Dinner Portions:</i> Tea: 240g tea with 83g ice (refillable) Salad: served family style Breadstick: served family style (enough for 2 each) Lasagna: 380g Cannelloni: 225g	<i>Dinner portions:</i> Portion sizes similar to test 2
SOCIAL	Seating	Facing wall	Seated around square tables, 4 persons each in back room of restaurant	Typical restaurant seating
	Talking	Not allowed	Free flowing discussion allowed (even about products)	Natural environment for discussion
	Respondent Familiarity	Strangers, individually recruited from database		Natural situation: friends, family, etc
ENVIRONMENT	Ballot Presentation	Presented with meal items by a ballot administrator		Presented during consumption of specific item by a restaurant server
	Décor	Fluorescent lighting, plain walls	Restaurant décor, (Italian theme)	
	Dinnerware	White plastic utensils, soft plastic cups, white Styrofoam dinnerware, 3-digit codes	Restaurant standard: real silverware, hard tinted glasses, and ceramic dinnerware. No codes used	
	Server Attire	Hairnets, gloves and laboratory coats	Standard restaurant uniform: black pants, white shirt and tie	
	Location	McCormick testing facility	Local and national restaurants	
CHOICE	Freedom of Choice	No, product assigned according to rotation pattern		Yes, patrons chose items off menu as part of meal (except salad and breadsticks which come with all meals)

CLT: Central location test.

ded in the ballot among other liking and diagnostic questions. Overall rating is the primary measure of acceptability being presented in this paper.

Additional diagnostic information was collected but will not be discussed in this paper. Demographic information (gender, age, and restaurant usage frequency) was also collected at the end of each questionnaire. In tests 1 and 2, the questionnaire containing a page with questions for each of the items evaluated, was presented at the beginning of the test. In test 3, the ballot (satisfaction survey) was presented with the meal item evaluated.

2.4. Consumers and test methodology

Participants for tests 1 ($n = 74$) and 2 ($n = 83$) were recruited via McCormick's automated telephone recruiting system, and were comprised of males and females, ages 18–65. Individuals were required to be consumers of Italian pasta dishes with meat sauces (lasagna and cannelloni were used as examples), garlic breadsticks, salad and iced tea, to qualify for the test. Test 1 items were served following a sequential monadic complete block design; social interaction was not permitted; the room was set-up for individual evaluations, consumers were not given a choice of which product(s) to test, and monetary compensation was provided at the end of the test.

Three sessions were conducted during the in-restaurant CLT (test 2), at 11:00, 15:00 and 17:30. In test 2, items were presented in the order typically served at the restaurant; each item was evaluated individually except for the beverage, which was available throughout the test. It should be noted that consumers evaluated both entrees during the test; however the presentation of these entrees was randomized among dinning tables. Consumers sat in groups of 4–6 per table to allow for social interaction.

Test 3 was conducted at various restaurant locations nationwide, with patrons of the restaurant who ordered the specific item and completed the customer satisfaction survey during their meal. The surveys were collected during normal business hours (lunch or dinner). The survey was presented at the time the item was served and consumers were asked to complete the questionnaire during the consumption of the item. Consumers evaluated one item only. Data were collected over the course of several weeks. The respondent base for test 3 ranged from 250 to 390 for each of the five menu items.

Compensation was provided for tests 1 (\$30) and 2 (\$50 restaurant gift card); no compensation was provided for test 3.

2.5. Data analysis

Data were analyzed using univariate and multivariate analysis of variance procedures of the SAS system (Cary, NC). Duncan means separation test was used to differentiate samples. Differences described throughout the paper refer to statistically significant differences.

3. Results

3.1. Overall test comparison

There were significant differences ($p < 0.0001$) among the tests when average ratings of tea, salad, breadsticks, lasagna and cannelloni were combined (Table 3). Overall rating results are based on a 6-point hedonic scale where the mean score for test 3 (5.0) was significantly higher than test 1 (4.1) and test 2 (4.0). There was no difference in overall acceptability scores (9-point hedonic scale) between test 1 (7.2) and test 2 (7.1). No measure was available for test 3. Note that there were 2 different measures of acceptability in this study: Overall acceptability (9-point hedonic scale) and overall rating (6-point scale used by Olive Garden). Overall acceptability was measured in tests 1 and 2. Overall rating was measured in all three tests. Overall rating is the primary measure of acceptability being presented in this paper.

3.2. Meal components

Results from individual meal components (salad, breadsticks, lasagna, cannelloni and tea) for each of the test conditions are shown in Table 4. Significant differences ($p < 0.0001$) existed among the tests for each meal component except for lasagna, where scores remained constant. Testing foods as items (tests 1 and 2) rather than as part of a meal selected from the restaurant menu (test 3) yielded lower scores for all items except lasagna. Test 2, which was the CLT conducted at the restaurant, yielded similar results to test 1, which was conducted at a testing facility. It should be noted that the ranking order of the mean scores for the items

Table 3
Mean values for overall rating and overall acceptability for all items combined, across tests

Attribute	Test 1: traditional CLT ($n = 74$)	Test 2: restaurant CLT ($n = 83$)	Test 3: restaurant survey ($n = 386$)	P value
Overall rating	4.1b	4.0b	5.0a	<.0001
Overall acceptability	7.2	7.1	–	0.2565

CLT: central location test.

Table 4
Mean values for overall rating for each menu item across tests

Meal component	Test 1: traditional CLT (<i>n</i> = 74)	Test 2: restaurant CLT (<i>n</i> = 83)	Test 3: restaurant survey (<i>n</i> = 386)	<i>P</i> value
Lasagna	4.9	4.7	5.0	0.2823
Cannelloni	3.7b	3.5b	4.7a	<.0001
Iced tea	3.8b	3.7b	4.9a	<.0001
Salad	4.1b	4.2b	5.2a	<.0001
Breadsticks	3.8b	3.7b	5.0a	<.0001

One-way analysis of variance was used to compare the effect of test for each meal component. Within row, means sharing letters are not significantly different. 6-Point overall rating score where 1 = poor, 2 = fair, ..., 6 = excellent.

CLT: central location test.

Table 5
Mean values for overall rating for each menu item or all items combined, across gender

Overall rating	Males	Females	<i>P</i> value
	<i>n</i> = 287	<i>n</i> = 441	
Combined	4.5b	4.7a	<.0001
	<i>n</i> = 161	<i>n</i> = 276	
Lasagna	4.6b	5.1a	<.0001
	<i>n</i> = 154	<i>n</i> = 184	
Cannelloni	4.3	4.2	0.4976
	<i>n</i> = 133	<i>n</i> = 214	
Iced tea	4.1b	4.6a	0.0049
	<i>n</i> = 140	<i>n</i> = 282	
Salad	4.7	4.9	0.0684
	<i>n</i> = 162	<i>n</i> = 277	
Breadsticks	4.5	4.5	0.9141

remained consistent across all tests. Lasagna consistently ranked first, followed by the salad (second), tea and bread (tied for third place, except in test 3, where tea ranked fourth), and cannelloni ranked last.

3.3. Gender and age effects

There were significant differences ($p < 0.0001$) between genders on the overall rating scores for all the items combined (Table 5). Females rated the products higher (4.7) than males (4.5). Females rated lasagna

(5.1 versus 4.6) and iced tea (4.6 versus 4.1) higher than males. These differences were driven primarily by the results from test 3 ($p < 0.0001$). There were no significant differences in the other items (cannelloni, salad and bread).

There were significant differences ($p < 0.0001$) among age groups on the overall rating for all the items combined (Table 6). Participants aged 45–54 scored products lower overall for all the products combined as well as for individual products. Participants aged 18–24 and 55 and higher rated the products higher in general, and participants aged 25–44 scores fell somewhere between the other groups. There were no gender \times age interactions ($p = 0.63$).

Gender and age scores were compared within each test. In test 1 (lab CLT), there were no significant differences between genders or ages. In test 2 (restaurant CLT), there were significant age \times gender interactions, as well as differences among age group responses. Females in the 18–24 age group scored the products lower than males (0.5 scale point difference), while the females in the 25–45 groups rated the products higher (about 0.4 scale point difference). In test 3 (restaurant survey), females rated the products higher than males (5.1 versus 4.8) but differences among ages were not significant.

Table 6
Mean values for overall rating for each menu item or all items combined, across age

Overall rating	18–24 yr	25–34 yr	35–44 yr	45–54 yr	55–64 yr	65+ yr	<i>P</i> value
	<i>n</i> = 287	<i>n</i> = 441	<i>n</i> = 464	<i>n</i> = 598	<i>n</i> = 151	<i>n</i> = 122	
Combined	5.1a	4.7b	4.5b	4.3c	5.0a	5.0a	<.0001
	<i>n</i> = 71	<i>n</i> = 91	<i>n</i> = 104	<i>n</i> = 124	<i>n</i> = 33	<i>n</i> = 35	
Lasagna	5.2	4.8	4.9	4.8	4.8	5.2	0.0878
	<i>n</i> = 36	<i>n</i> = 81	<i>n</i> = 87	<i>n</i> = 107	<i>n</i> = 21	<i>n</i> = 21	
Cannelloni	4.7ab	4.3bc	4.4bc	3.9c	5.1a	4.8ab	0.0001
	<i>n</i> = 38	<i>n</i> = 81	<i>n</i> = 78	<i>n</i> = 114	<i>n</i> = 32	<i>n</i> = 15	
Iced tea	5.1a	4.5ab	4.1b	4.1b	5.1a	5.1a	<.0001
	<i>n</i> = 70	<i>n</i> = 90	<i>n</i> = 102	<i>n</i> = 120	<i>n</i> = 38	<i>n</i> = 30	
Salad	5.2a	5.1a	4.8a	4.3b	5.2a	4.9a	<.0001
	<i>n</i> = 72	<i>n</i> = 98	<i>n</i> = 100	<i>n</i> = 133	<i>n</i> = 27	<i>n</i> = 21	
Breadsticks	5.0a	4.6ab	4.4b	4.3b	4.9ab	5.1a	0.0020

3.4. Effects of individual context factors: meal and choice

These factors were included in test 3 only. The results show a significant ($p < 0.0001$) and positive effect in the overall rating of all of the items combined in test 3 (5.0) versus tests 1 and 2 (4.1 and 4.0). Similar results were observed with the individual items ($p < 0.0001$) as shown in Table 4, with the exception of lasagna where the scores remained constant across all the tests (4.9, 4.7 and 5.0 for tests 1, 2 and 3 respectively).

3.5. Physical environment and social interaction

The change in physical environment and additional social interaction between test 1 (laboratory) and test 2 (restaurant) resulted in no significant change in the overall ratings of the individual ($p > 0.34$) or combined items ($p = 0.45$). Mean scores dropped between 0.1 and 0.2 units (on a 6-point scale) for individual items, except for salad where there was a slight increase (0.1 units), and an overall drop of 0.1 units (4.1–4.0) with all items combined.

4. Discussion

A number of studies have demonstrated that the location where food is tested and/or consumed has an impact on how well that food is liked. Meiselman et al. (2000) demonstrated differences between meals served in institutional settings and restaurant settings, and suggested that laboratory results might fall between these two points. Edwards et al. (2003) confirmed the low ratings in institutional settings and higher ratings in restaurant settings, and suggested that consumer expectations might underlie these differences, based on the report of Cardello, Bell, and Kramer (1996) that people expect institutional products to be less well liked.

King et al. (2004) attempted to uncover some of the variables underlying the lower scores in laboratories versus restaurants, and found that, generally, consumer acceptability of foods increases with the addition of context variables. They found that presenting items as part of a meal and/or giving consumers a choice of items significantly increased the overall score for several of the items.

In the present study, restaurant survey results (test 3) were significantly higher than the results of the traditional CLT, therefore confirming and extending the results of Meiselman et al. (2000) and King et al. (2004). However, it is important to recognize that the ranking of food item scores was not affected by context; in the present study all conditions produced the same ranking of foods. Thus, if one is only interested in ranking products, then context might be less important as a factor in

experimental design. When one is interested in the level of acceptance, then context becomes important.

As with King et al. (2004), not all the context factors evaluated in this study had a significant positive effect on the acceptability of the food items, and not all variables impacted all foods. Presenting items in the natural environment and allowing socialization did not improve the overall ratings of the items (test 2 versus test 1). However, evaluating the items under “natural” conditions (as a patron of the restaurant) had a significant and positive effect on the overall rating of all items except lasagna which remained high but constant.

In the case of test 2, the effect of context, specifically the addition of social interaction and enhanced environment, was not evident, suggesting the following possibilities: the impact of environment alone and/or social interaction on the overall acceptability/rating of a product is not as significant as some of the other context factors; the testing approach may have a greater effect on the consumer response than the environment and/or social interaction; for example, the way the test was executed, including the presentation of the ballot at the onset of the item evaluation, the way the items were presented one at a time rather than as part of a meal may all have contributed to the lower score, overcoming the fact that they were at the restaurant (natural physical environment) consuming the food, or the artificial way social facilitation was encouraged in test 2 (consumers were allowed to talk at the table when individuals did not know each other). Pliner, Bell, Kinchla, and Hirsch (2003) demonstrated that social facilitation has a positive effect on naturally created groups (people that know each other) but not on artificially created groups. This would suggest that a meal situation and the ability to choose items, as well as the way the test is executed such as presentation of the ballot, may have a stronger effect on the rating of the product than subjects socializing in a more natural environment. In the restaurant CLT, the effect of consumer expectation on the menu items did not overcome all other factors that resulted in low overall rating of the products. King et al. (2004) found that socialization may have had a negative effect on the acceptability of pizza. In this test, the individual items scores dropped slightly except for salad which showed a very slight increase. Because social interaction was created rather than occurring naturally, participants may have paid more attention to what they were eating in front of others. For example, eating salad might have been viewed as a healthy lifestyle and therefore created a positive image in front of strangers, while lasagna and cannelloni (or pizza) were not viewed necessarily as healthy items, and therefore the scores may not have increased or significantly dropped as in the case of pizza (King et al., 2004).

Gender and age effects were evident throughout this study but, as with context effects, were not consistent

throughout all the tests. In general, women appear to discriminate among products more than males; however, differences between genders or among age groups varied by test. Test 1 results showed no significant differences between genders or among age group responses while differences existed in test 2 (restaurant CLT) and test 3 (restaurant survey). These results suggest that gender and age differences may be diminished in laboratory tests. While this study found differences in gender and age for the enhanced settings (Edwards et al., 2003) found the opposite, that there is no difference between genders in responses to meals in various context settings. Therefore, the interaction of context effects with gender and age are yet not well understood and additional research may be warranted.

All of the items tested, with the exception of lasagna, rated lower in tests 1 and 2 compared with test 3. Lasagna scores remained high for all tests. This high flat score, may be the result of evaluating a highly familiar and well liked food product, hence, not showing the contrast found in the other items, particularly cannelloni, which scored low in tests 1 and 2 and significantly higher in test 3. A similar pattern was observed with pizza in King et al., 2004; scores for pizza were similar and high between the laboratory CLT and the restaurant. It is possible that well liked and familiar main dishes are less susceptible to the powerful effects of expectations, which may have more impact on less well-liked foods. Well-known and well-liked dishes, such as pizza and lasagna (in the US) may have a stronger image, be less susceptible to being changed by varying eating environments and the variables included in them. It is also possible that products like pizza perform differently in a meal setting. This was suggested by Hedderley and Meiselman (1995), who observed that pizza accounted for a larger portion of overall meal acceptance compared to more traditional main dishes. Therefore, we cannot conclude that the addition of any context effect(s) in this study result in increased rating scores for all foods. It is recommended that future context studies utilize a broader range of main dishes. Another possibility may be a limitation with the rating scale. Given that the item is well liked the scores will be high in the initial test (test 1) but can not go any higher in test 3 since the scale is self-limiting. It should also be noted that when the products were consumed at the restaurant, they were branded by default. The expected result would have been a higher score just based on brand disclosure, and since participants frequented the restaurant on a regular basis; however this was not the case, suggesting once again, that other factors may influence the acceptability scores.

Meal and food choice continue to be the strongest factors that influence food perception and acceptability. These factors have a strong positive effect on acceptability scores for most food items tested during this and the

previous King et al. (2004) study. This is an important result because traditional product testing is usually done with single food items (not in a meal context), and is usually done without the test subject actually selecting the item to be tested. While developing laboratory test protocols using meals rather than items is not difficult, it is more complex to develop laboratory test protocols in which the consumer chooses the product to be consumed and evaluated. Choice is inherently a part of many natural eating occasions, especially restaurant dining, which is one reason to use naturalistic testing at certain stages of product development and evaluation.

Social interaction and environment (location) did not have significant effects on the ratings of the products. It is common practice for some restaurant businesses to conduct CLT's at the restaurant to create a natural environment/situation for consumers. This study demonstrated that the facility (restaurant) itself had no measured impact on the acceptance scores and that other factors/approaches may need to be considered to create a more natural situation when collecting product data for restaurants. For those interested in improving the naturalistic setting of tests, it is important to realize that moving an artificial laboratory test to a restaurant or other natural location might not be sufficient if the test protocol remains laboratory-like.

This study confirmed the results of King et al. (2004) that CLT results underestimate consumer judgments of products in real-life eating situations. Results of test 1 versus test 3 in the present test were similar to results of test 1 versus test 6 in (King et al., 2004), with meal context and food choice having a stronger impact on food acceptability than social interaction or environment. This is an important finding since meal and choice elements may be more easily incorporated and better controlled in a CLT approach.

Additional research is still needed to investigate other elements present in a CLT to help better predict the acceptability of the product in a real-life situation. Some of those elements include the following: (1) understanding which foods are more susceptible to which context effects and (2) whether the context effect is related to the initial acceptability of the product (well-liked or familiar foods such as pasta dishes which in some cases stand alone as a complete meal, i.e. lasagna and pizza); (3) the effect of timing of the ballot presentation (beginning of the test versus end of the test); (4) the relative effect of presenting items as part of a meal versus giving food choices to consumers: are they equally important or does one have a greater effect than the other; (5) determining whether the physical environment has an effect once meal and food choice are established; and (6) investigating whether social facilitation has more or less impact when combined with other factors including meal duration. Therefore, gaining a better understanding of the relative effect and possible ranking of the var-

ious contexts factors investigated thus far (meal, social interaction, the environment and food choice) may help determine which may be critical and may need to be incorporated in consumer tests to better predict “real life” responses.

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